

REMARKS

This application has been carefully reviewed in light of the Office Action dated June 22, 2005. Claims 1-5 remain pending in this application. Claim 1 is the independent claim. Favorable reconsideration is respectfully requested.

Applicant hereby affirms the election of Group I, claims 1-5, without traverse.

On the merits, the Office Action rejected Claims 1-5 under 35 U.S.C. § 103(a) as being unpatentable over Tillmans (EP 951068; hereinafter "Tillmans") in view of Beckham et al (U.S. Patent No. 4,604,644; hereinafter "Beckham"). Applicant respectfully traverses the rejection for at least the following reasons.

The combination of Tillmans and Beckham fail to recite or suggest the step of depositing alloy soldering bumps on the connecting surface of the first silicon wafer, the said bumps being separated from one another by an even distance which is sufficiently small to cause joinings during the assembly of the two silicon wafers, the said deposition of the soldering bumps being carried out during the step of depositing the soldering bumps intended for the electrical contacts. Tillman recites a solder ring 3 being deposited by electroplating (see, e.g., Col. 4, line 55 to Col. 6, line 6). This requires complex additional steps of

masking and depositing, or depositing and etching which Applicant's invention expressly seeks to avoid.


Beckham fails to compensate for that which Tillmans lacks. Specifically, Beckham at least fails to recite or suggest depositing alloy soldering bumps on the connecting surface of the first silicon wafer, the said bumps being separated from one another by an even distance which is sufficiently small to cause joinings during the assembly of the two silicon wafers. Rather, Beckham recites solder terminals 13 forming a sealing ring by adding a dielectric 30 (See, e.g., Figs. 4A and 5). Additionally, Beckham nowhere recites or suggests that the bumps are separated from one another by a distance sufficiently small to cause joinings during assembly. In fact, Beckham expressly teaches away from this limitation by depicting solder terminals as not causing joinings during assembly (i.e., remaining non-contiguous after reflow) and requiring dielectric 30 to add mechanical strength and presumably to form a sealed compartment. Thus Applicant respectfully traverses the Office Action's rejection of Claim 1 over Tillmans in view of Beckham for at least the above reasons.

Claims 2-5 depend from independent Claim 1 discussed above and are believed patentable for at least the same reasons. In addition, Applicant respectfully believes Claims 2-5 to be independently patentable and request separate consideration of each claim.

In view of the foregoing remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

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Respectfully submitted,

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